PART I: EXECUTIVE SUMMARY/OVERVIEW

Summary of Louisiana's Water Quality Assessment Program

Louisiana, well known for its abundance of water resources, contains over 66,294 miles of rivers and streams, 1,078,031 acres (1,684 square miles) of lakes and reservoirs, 5,882,070 acres (9,191 square miles) of fresh and tidal wetlands, and 4,899,840 acres (7,656 square miles) of estuaries. These figures, some of which are taken from the U.S. Environmental Protection Agency's (EPA) River Reach 3 file, are believed to be low in comparison to the actual total area of Louisiana's rivers, streams, lakes and estuaries. It is the responsibility of the Louisiana Department of Environmental Quality's (LDEQ) to protect the chemical, physical, biological and aesthetic integrity of the water resources and aquatic environment of Louisiana. This responsibility is undertaken through the use of public education, scientific endeavors, water quality management and regulatory enforcement, in order to provide the citizens of Louisiana with clean and healthy water now and in the future.

The 2002 *Water Quality Inventory* documents the LDEQ's progress toward meeting this responsibility. Louisiana's *Water Quality Inventory* is produced, in part, to meet requirements of the Federal Water Pollution Control Act (FWPCA), commonly known as the Clean Water Act (CWA) (FWPCA, 33 U.S.C. 1251-1387). Section 305(b) of the CWA requires each state to provide the following information to the administrator of the EPA:

1. a description of the water quality of all navigable waters in the state;
2. an assessment of the status of waters of the state with regard to their support of recreational activities and fish and wildlife propagation;
3. an assessment of the state's water pollution control activities toward achieving the CWA goal of having waterbodies which support recreational activities and fish and wildlife propagation;
4. an estimate of the costs and benefits of implementing the CWA; and
5. a description of the nature and extent of nonpoint sources of pollution and recommendations for programs to address nonpoint source pollution.

For the 2002 *Water Quality Inventory* and § 303(d) list of impaired waters, LDEQ began use of EPA's Consolidated Assessment and Listing Methodology (CALM). Use of CALM guidance changed several aspects of LDEQ water quality assessment procedures. One of the primary focuses of CALM was on the use of seven categories to which waterbodies or waterbody/impairment combinations could be assigned. Categorization under CALM allows for a more focused approach to water quality management by clearly determining what management actions are required to protect or improve individual waters of the State. The seven CALM categories are:

The second significant change in EPA guidance was on the use of "overall support." Overall support statements were assigned to waterbodies in order to provide a single water quality statement regarding each waterbody. However, it was found by States and EPA that different interpretations could be placed on the statement overall support. In addition, overall support statements overlooked the status of individual designated uses. For example, under prior Louisiana *Water Quality Inventory* reports a water body could be given an overall support statement of not supported because the designated use of fish and wildlife propagation was not supported due to low dissolved oxygen. However, the designated uses of primary contact recreation and secondary contact recreation could be fully supported, meaning the waterbody was safe for these recreational activities. Unfortunately, under the overall support statement of not supported the fact that swimming is safe may not be known to the public. Therefore, eliminating the overall support statement will allow the public to be better informed as to water quality related to specific uses of each waterbody.

Table 1.1.1

Environmental Protection Agency Consolidated Assessment and Listing Methodology (CALM) guidance categories used to categorize waterbody/impairment combinations for Louisiana's 2002 § 305(b) Report and § 303(d) list.

CALM Category	CALM Category Description
Category 1	Waterbody or formerly listed impairment is now attaining all uses and standards.
Category 2	Waterbody is meeting some uses and standards but there is insufficient data to determine if other formerly listed impairments are attaining uses and standards.
Category 3	There is insufficient data to determine if any uses and standards are being attained.
Category 4a	Waterbody is impaired for one or more uses, but a TMDL has been completed for the specific impairment.
Category 4b	Waterbody is impaired for one or more uses, but other control measures are expected to result in attainment of designated uses.
Category 4c	Waterbody is impaired for one or more uses, but a pollutant does not cause the impairment.
Category 5	Waterbody is impaired for one or more uses, and a TMDL is required for the specific impairment.

The third significant change in EPA guidance was removal of the partially supporting category of use support. In the past, waterbodies could be placed in the use support categories of fully supported, partially supported, not supported. However, the category of partially supported was found to be meaningless from a management perspective because waterbody/impairment combinations in this category still required Total Maximum Daily Loads (TMDL) or other water quality management activities. EPA CALM guidance also now permits the use of two new categories, "Insufficient data" and "not assessed". Insufficient data was assigned to those waterbodies suspected of having an impairment but for which data was not sufficient to confirm a problem exists. Waterbodies or waterbody/impairment combinations in this category are expected to have additional monitoring in the near future in order to confirm or reject the suspected impairment. Not assessed was assigned to those waterbodies or designated uses for which little or no data exists on which to base any assessment. These waterbodies will also have additional monitoring in the near future in order to make accurate water quality assessments.

In addition to the changes in EPA guidance noted above, the 2002 *Water Quality Inventory* is the first such report to be produced following complete sampling of nine of Louisiana's twelve major watershed management basins. As of October 2002, Louisiana is in the final round of its rotating basins ambient water quality monitoring program. Under this program, nearly every waterbody management subsegment in Louisiana (A total of 479 subsegments.) will have been monitored once per month for a full year. This represents a great increase in the number of ambient water quality monitoring sites located in the State. With this improved monitoring, accurate water quality data is now available for approximately 400 additional waterbodies that Louisiana has, in the past, not been able sample.

As a result of the use of CALM guidance, and the improved ambient water quality monitoring program, the 2002 *Water Quality Inventory* is the most accurate and comprehensive § 305(b) report ever produced by Louisiana. Through the use of water quality data collected over the past one to five years, data collected from many waterbodies for the first time, the LDEQ is now able to paint a more accurate picture of water quality in Louisiana.

Summary of River Quality in Louisiana

Figures 1.1.1 through 1.1.3 summarize support of the three most common designated uses for Louisiana rivers. These uses are primary contact recreation (PCR) (swimming), secondary contact recreation (SCR) (boating), and fish and wildlife propagation (FWP). These three uses also address the primary directive of the Clean Water Act; to make the waters of the United States both "fishable and swimmable." Other uses

are established for selected waterbodies in Louisiana. The status of these uses can be found in Part 3, Chapters 3-6.

Figure 1.1.1. Support of primary contact recreation (swimming) for Louisiana rivers, 2002 305(b) assessments. (Based on 339 assessed rivers.)

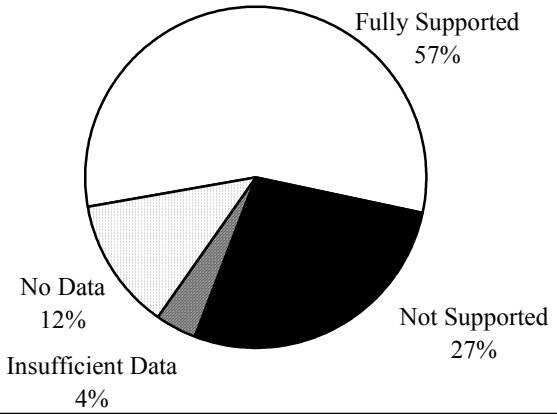


Figure 1.1.2. Support of secondary contact recreation (boating) for Louisiana rivers, 2002 305(b) assessments. (Based on 351 assessed rivers.)

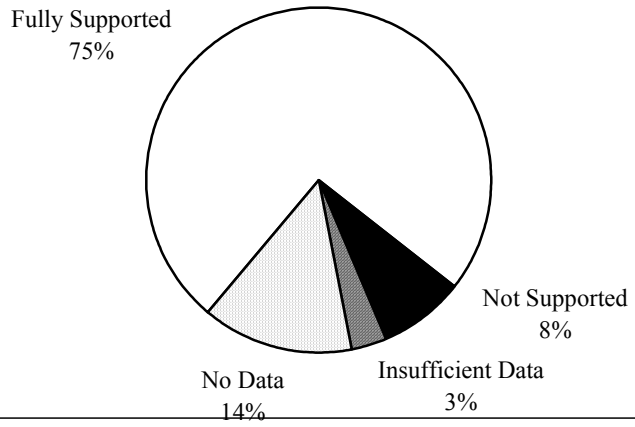
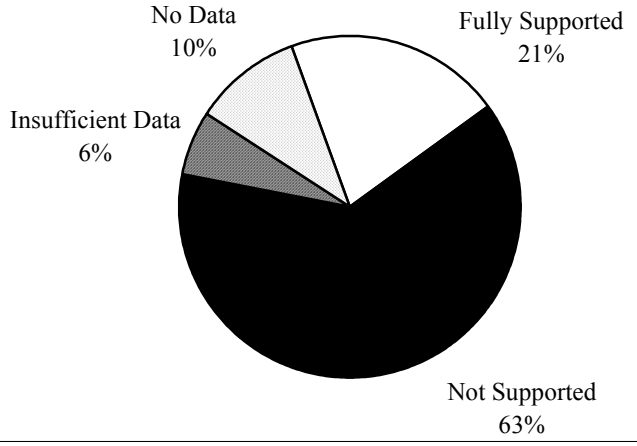


Figure 1.1.3. Support of fish and wildlife propagation for Louisiana rivers, 2002 305(b) assessments. (Based on 346 assessed rivers.)



The most frequently identified suspected impairments found in Louisiana rivers include: fecal coliforms (4,459 miles); low dissolved oxygen (3,137 miles); turbidity (2,719 miles); total suspended solids (2,578 miles); sedimentation/siltation (2,011 miles); and mercury (1,565). The most frequently cited suspected sources of impairment include: unknown sources (6,329); irrigated crop production (1,526); septic systems (2,108 miles); natural conditions (1,635 miles); non-irrigated crop production (1,526 miles); municipal sewage discharges (1,422 miles); and atmospheric deposition (1,130 miles).

Summary of Lake Quality in Louisiana

Figures 1.1.4 through 1.1.6 summarize support of primary contact recreation (PCR) (swimming), secondary contact recreation (SCR) (boating), and fish and wildlife propagation (FWP). Other uses are established for selected waterbodies in Louisiana. The status of these uses can be found in Part 3, Chapters 3-6.

Figure 1.1.4. Support of primary contact recreation (swimming) for Louisiana lakes, 2002 305(b) assessments. (Based on 65 assessed lakes.)

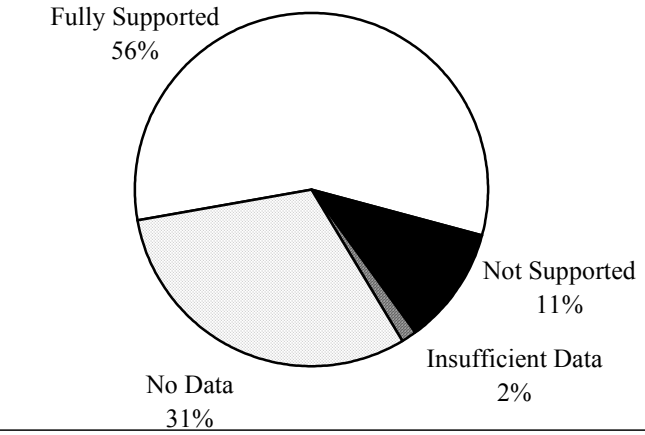


Figure 1.1.5. Support of secondary contact recreation (boating) for Louisiana lakes, 2002 305(b) assessments. (Based on 65 assessed lakes.)

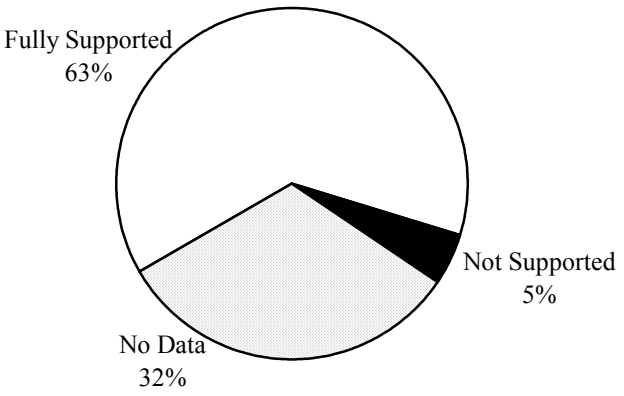
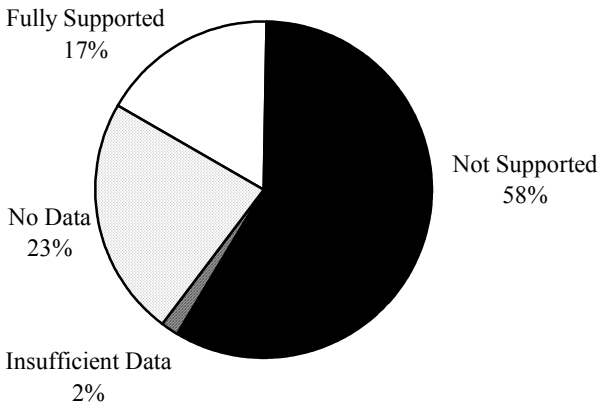


Figure 1.1.6. Support of fish and wildife propagation for Louisiana lakes, 2002 305(b) assessments. (Based on 65 assessed lakes.)



The most frequently identified suspected impairments found in Louisiana lakes include: non-native aquatic plants (319,163 acres); mercury (due to advisories) (248,518 acres); turbidity (171,033 acres); sedimentation/siltation (163,386 acres); total suspended solids (155,383 acres); total dissolved solids (131,905 acres); chlorides (126,740 acres). The most frequently cited suspected sources of impairment include: unknown sources (704,152 acres); atmospheric deposition (418,977 acres); natural conditions (128,082 acres); non-irrigated crop production (101,460 acres); irrigated crop production (84,048 acres); and drought related impacts (74,900 acres).

Summary of Estuary Quality in Louisiana

Figures 1.1.7 through 1.1.9 summarize support of primary contact recreation (PCR) (swimming), secondary contact recreation (SCR) (boating), and fish and wildlife propagation (FWP). Other uses are established for selected waterbodies in Louisiana. The status of these uses can be found in Part 3, Chapters 3-6.

Figure 1.1.7. Support of primary contact recreation (swimming) for Louisiana estuaries, 2002 305(b) assessments. (Based on 52 assessed estuaries.)

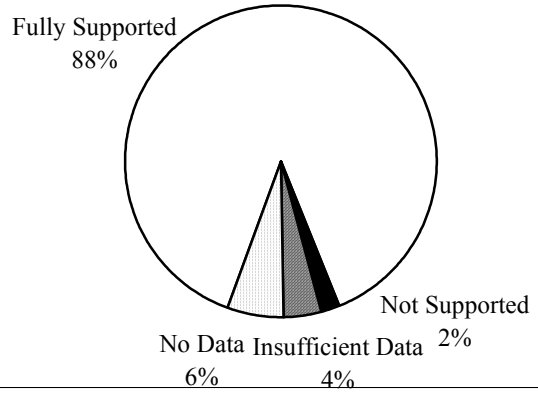


Figure 1.1.8. Support of secondary contact recreation (boating) for Louisiana estuaries, 2002 305(b) assessments. (Based on 52 assessed estuaries.)

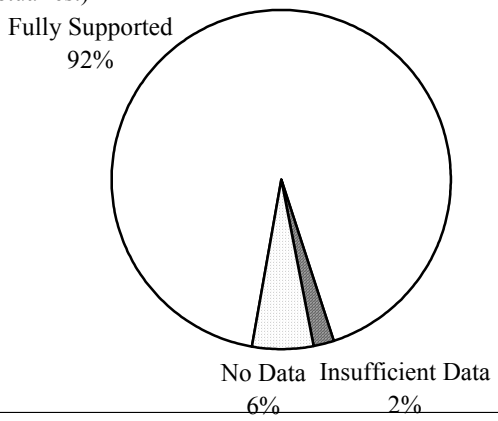
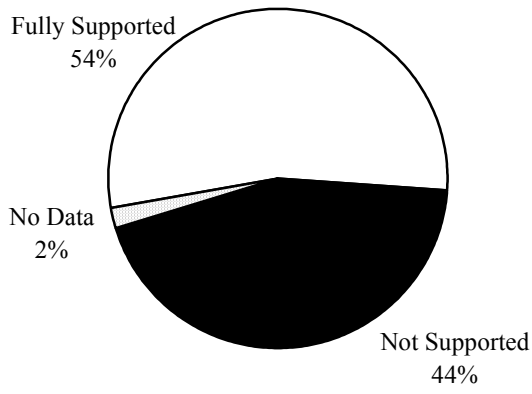


Figure 1.1.9. Support of fish and wildlife propagation for Louisiana estuaries, 2002 305(b) assessments. (Based on 52 assessed estuaries.)



The most frequently identified suspected impairments found in Louisiana estuaries include: mercury (due

to advisories) (1,726 square miles); phosphorus (964 square miles); nitrogen (964 square miles); and fecal coliform (642 square miles). The most frequently cited suspected sources of impairment include: unknown sources (3,468 square miles); atmospheric deposition (2,641 square miles); sanitary sewer overflows (563 square miles); upstream sources and sources outside state jurisdiction (252 square miles); irrigated and non-irrigated crop production (193 square miles).

Summary of Wetland Quality in Louisiana

Figures 1.1.10 through 1.1.12 summarize support of primary contact recreation (PCR) (swimming), secondary contact recreation (SCR) (boating), and fish and wildlife propagation (FWP). Other uses are established for selected waterbodies in Louisiana. The status of these uses can be found in Part 3, Chapters 3-6.

Figure 1.1.10. Support of primary contact recreation (swimming) for Louisiana wetlands, 2002 305(b) assessments. (Based on 6 assessed wetlands.)

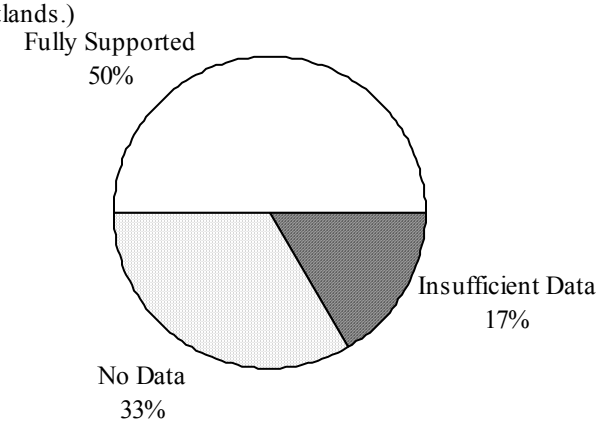


Figure 1.1.11. Support of secondary contact recreation (boating) for Louisiana wetlands, 2002 305(b) assessments. (Based on 10 assessed wetlands.)

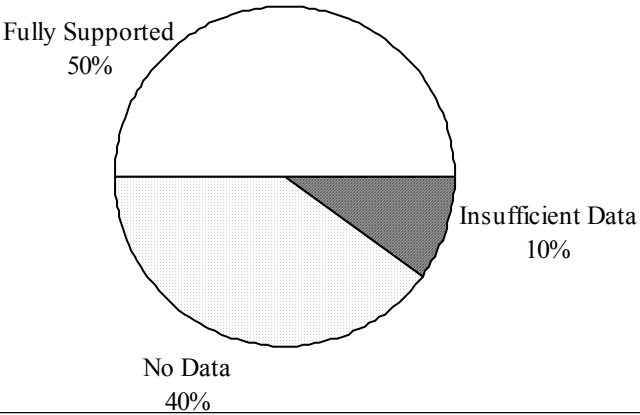
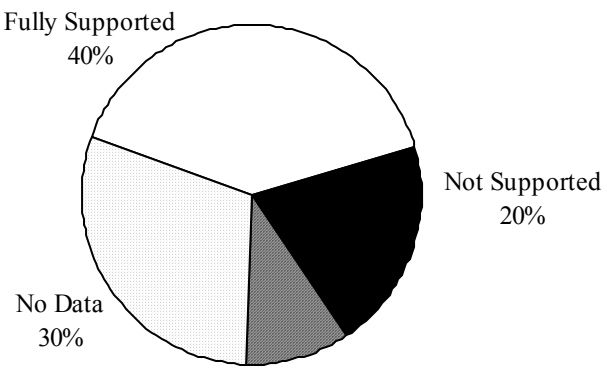


Figure 1.1.12. Support of fish and wildlife propagation for Louisiana wetlands, 2002 305(b) assessments. (Based on 10 assessed wetlands.)



The most frequently identified suspected impairments found in Louisiana wetlands include: sedimentation/siltation (285,440 acres); low dissolved oxygen (199,040 acres); and mercury (due primarily to advisories) 199,040 acres). The most frequently cited suspected sources of impairment include: unknown sources (487,040 acres); atmospheric deposition (398,080 acres); and drought related impacts (7,680 acres).

When looked at across all waterbody types a pattern of both suspected causes and sources of impairment emerges. The most frequently cited suspected causes of impairment for all waterbodies combined are fecal coliforms primarily from septic tanks and municipal sewage systems; low dissolved oxygen from sewage, agriculture, or natural causes; sediment related problems such as turbidity, suspended solids, and siltation caused by agriculture or natural cause; and mercury related to fish consumption advisories due primarily to atmospheric deposition of mercury on the watershed. Many of the suspected sources of water quality impairment are what is known collectively as nonpoint source pollution. Nonpoint source pollution is discussed in detail in Part II. Chapter 2.

Ground Water Quality

The Environmental Evaluation Division's Baseline Monitoring Project provides water quality data from fresh water aquifers around the State. Wells producing from a common aquifer are sampled in a narrow time frame. The smaller aquifers can be sampled in one or two days, whereas, the larger aquifers may take several months to complete. At such time when all project wells of a particular aquifer have been sampled, a summary report is written.

For this report, EPA has encouraged States to select an aquifer or hydrogeologic setting and discuss available data that best reflects the quality of the resource. For 2002, the baseline monitoring networks for the Chicot Equivalent, Evangeline Equivalent, and Jasper Equivalent aquifer systems are discussed. As a group, these aquifer systems make up a larger system, known as the Southern Hills aquifer system.

Water Pollution Control Programs

LDEQ has been given the responsibility of managing the quality of Louisiana's surface waters by upgrading the quality where man's activities have caused degradation and by preserving the integrity of those waters where good quality exists. Water pollution controls employed by the agency include municipal and industrial wastewater discharge permits, enforcement of permit requirements, review and certification of projects affecting water quality, implementation of best management practices for nonpoint source pollution and regular water quality monitoring of the state's surface waters. Toward this end, in 1997 the LDEQ was granted National Pollutant Discharge Elimination System (NPDES) delegation by the EPA. As a result of

delegation most facilities that discharge to waters of the state are only required to obtain one permit, rather than both an NPDES permit and a state permit as in the past. In addition to LDEQ's permitting responsibilities, grants and loans for construction and upgrade of municipal treatment facilities are awarded through the LDEQ. In the past, the majority of pollution control programs have been directed at point source discharges through the issuance of wastewater permits, compliance assurance activities and enforcement activities. While this is still the case, nonpoint source pollution control efforts continue to increase.

Presently, LDEQ does not regulate most nonpoint sources through permits. LDEQ's Environmental Planning Division (EPD) currently houses the State's nonpoint source management program, which has been successful in implementing voluntary controls and education efforts. This has been done through coordination with other concerned agencies, such as the State Department of Agriculture and Forestry, the U.S. Natural Resource Conservation Service and the Louisiana State University Cooperative Extension Service. Because studies have indicated that regulation of point source discharges alone will not guarantee maintenance of good water quality conditions in surface waters of the state, the EPD in cooperation with other participating agencies is developing nonpoint source control demonstration projects for targeted areas.